REMARKS

The application includes claims 1-13 and 18-25.

Claims 1-13 and 18-25 were rejected.

No claims are amended herein.

Claim Rejections - 35 U.S.C. § 112

The Examiner rejected claims 6, 24, and 25 under 35 U.S.C. § 112, first paragraph.

The rejection is traversed.

"To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, e.g., *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116." MPEP § 2163. "While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure." MPEP § 2163. "The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc.*, 935 F.2d at 1563-64, 19 USPQ2d at 1117." MPEP § 2163.

In rejecting claim 6, the Examiner alleged that the specification fails to disclose *reducing an image level of one or more pixels of the image by subtracting a number of bits of image data from each of the one or more pixels.*

Support for claim 6 may be found at various points in the specification including, for example, at page 3 lines 7-8, 13-16, and 20-22, which states "reducing a plurality of bits of the scale of each pixel in the image can reduce the scale of each pixel in the image." Applicant points out that there is no requirement for claim amendments to recite language verbatim from the specification, and respectfully submits that the specification clearly conveys the meaning of the recited features to those skilled in the art.

Claim 24 recites *one or more of the full image level, the reduced image level, and the image level comprise a color level.* The Applicant remarks that the Examiner has not rejected independent claim 18, upon which claim 24 depends. Since previously presented claim 18 introduced the full image level, the reduced image level, and the image level, Applicant assumes

that the Examiner is rejecting claim 24 based on the additional language of "comprise a color level." The Examiner's attention is directed to page 6, lines 13-14 which disclose "a pattern with less color level scale," and lines 20-21 which disclose "the color level scale of the scanned image processed by step 104 to a color level the same as the scanned image."

Claim 25 recites *one or more of the full image level, the reduced image level, and the image level comprise a gray level*. The Applicant remarks that the Examiner has not rejected independent claim 18, upon which claim 25 depends. Since previously presented claim 18 introduced the full image level, the reduced image level, and the image level, Applicant assumes that the Examiner is rejecting claim 24 based on the additional language of "comprise a gray level." Claim 25 is supported for similar reasons as provided for claim 24. Additionally, the Examiner's attention is directed to page 6, lines 12-14 which disclose "the color level scale of every pixel of the scanned image processed above is increased by using a halftone pattern method in step 106." Step 106 in FIG. 1 states "Using halftone pattern to increase the image's gray levels."

One skilled in the art would appreciate that the recited features of a *full image level, the reduced image level, and the image level* may comprise either a color level or a gray level, as recited by claim 24 and 25, respectively.

Applicant respectfully submits that the features recited by claims 6, 24, and 25 are fully supported and are sufficiently described to enable one skilled in the art per MPEP § 2163. Accordingly, withdrawal of the rejection is respectfully requested.

Claim Rejections - 35 U.S.C. § 102

The Examiner rejected claims 1-5 and 22 under 35 U.S.C. § 102(e) on the basis of being unpatentable over Maurer *et al.* (U.S. Patent 6,650,773).

The rejection is traversed. Claim 1 recites a method for reducing image noise in a scanned image, comprising:

> decreasing a color level of the scanned image by reducing a number of bits of a full color level of one or more pixels in the scanned image to form a reduced color level image;
>
> composing a pattern having less color level than the full color level; and
>
> recombining the full color level of the one or more pixels in the scanned image by combining the reduced color level image with the pattern.

In rejecting claim 1, the Examiner asserts that "examiner interprets the pattern used to downsampled the chrominance to reduce resolution... and later the chrominance is reconstructed to original resolution... Thus the pattern must have less color level than chrominance level because after downsampled, the chrominance level just reduced resolution (chrominance level reduced)."

As Applicant previously argued in the Amendment dated July 29, 2008 (top of page 9):

> Pixel count and pixel density may be used to define a resolution of an image (col. 2 line 59), whereas each pixel is associated with a number of bits of one or more colors (col. 2 lines 8-13). A reduction of pixels reduces a resolution of an image, whereas a reduction of a number of bits reduces an amount of data associated with defining the color. More to the point, the matrix of pixels associated with the downsampling process 108 of Maurer is unrelated to a color level. A single pixel may have the same color level as a matrix of pixels.

Contrary to the Examiner's basis for rejection, the reduction in resolution of the chrominance level in the down-sampling process 108 of Maurer does not correspond with a reduction in color level. Applicant respectfully submits that either the Examiner continues to confuse the concepts of resolution and color level, or he is interpreting Applicant's claims differently than one skilled in the art. According to MPEP § 2163, "USPTO personnel must always remember to use the perspective of one of ordinary skill in the art. Claims and disclosures are not to be evaluated in a vacuum."

Claim Rejections - 35 U.S.C. § 103

The Examiner rejected claims 6-13, 18-21, and 23-25 under 35 U.S.C. § 103(a) as being unpatentable over Maurer.

The rejection is traversed.

Claim 6 recites a method for reducing noise in an image, comprising:

> reducing an image level of one or more pixels of the image by subtracting a number of bits of image data from each of the one or more pixels; and
>
> restoring the image level of the one or more pixels using a halftone pattern comprising a matrix, wherein a number of rows and a number of columns of the matrix correspond to the number of bits of image data subtracted from the one or more pixels.

The Examiner alleges that Maurer discloses "the luminance channel has the bit depth may be truncated down about 2 bits... and each chrominance channel may be down-sampling by

factor of 2 by replacing 2x2 matrix of pixels by a single pixel... and since color is combined of chrominance channel and luminance channel. Thus number of bits reduced can set equal to the size of the pattern like 2x2 matrix." (page 4, first paragraph).

The Examiner appears to be suggesting that the terms pixels and bits have a one-to-one correspondence. By way of reference, the Examiner's attention is drawn to the Wikipedia entry for "PIXEL," and specifically the sub-heading BITS PER PIXEL in which it states that "The number of distinct colors that can be represented by a pixel depends on the number of bits per pixel (bpp)." Accordingly, the color level of each pixel may be represented by a number of bits. Whereas Maurer describes down-sampling by factor of 2 by replacing a 2x2 matrix of pixels by a single pixel, this does not disclose or otherwise suggest *reducing an image level of one or more pixels of the image by subtracting a number of bits of image data from each of the one or more pixels*, as recited by claim 6. Rather, Maurer is merely describing the quite different concept of a reduction in resolution, as previously argued.

Applicant respectfully submits that the Examiner's interpretation further utilizes impermissible hindsight to read the features of Applicant's owns specification into that of Maurer.

According to MPEP § 2142,

> *To reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search and evaluate the "subject matter as a whole" of the invention...However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.*

Applicant respectfully submits that the Examiner has determined to interpret the down-sampled pixel matrix of Maurer as if it corresponded to a number of bits of image data without putting applicant's disclosure aside, as required by MPEP § 2142. Maurer, however, does not refer to a number of bits when describing the down-sampling process 108. One skilled in the art would appreciate that a reduction of resolution does not necessarily imply any reduction in image level of one or more pixels.

Claims 7-13, 18-21, and 23-25 are believed to be allowable for similar reasons as discussed above with respect to claims 1 and 6, in addition to the further novel features recited therein. Further support for the Applicant's position may be found in the Amendment filed July 29, 2008. Accordingly, withdrawal of the rejection of claims 6-13, 18-21, and 23-25 is respectfully requested.

Any statements made by Examiner that are not addressed by Applicant do not necessarily constitute agreement by the Applicant. In some cases, Applicant may have amended or argued the allowability of independent claims thereby obviating grounds for rejection of the dependent claims.

CONCLUSION

For the foregoing reasons, the Applicant respectfully requests reconsideration and allowance of claims 1-13 and 18-25. The Examiner is encouraged to telephone the undersigned if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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